

**IN THE CLAIMS:**

Please amend claims 1, 3, 5-10, 15, 17, 19-23, 29-31, 33, 35, 36 and 40 as follows. Attached hereto is a marked-up copy of the amended claims.

SUB H1  
Y4

1. (Three Times Amended) A device for sensing a light comprising:  
a light sensor region and a semiconductor switch region adjacent to and operatively connected with said light sensor region over a substrate,  
wherein a semiconductor region of the light sensor region and an active region of the semiconductor switch comprise the same semiconductor layer, the semiconductor layer having a semi-amorphous structure formed over the substrate, and  
wherein a Raman spectrum of the semiconductor layer exhibits a peak deviated from that which stands for a single crystal for the semiconductor.

Y5

3. (Amended) An electric equipment having a device according to claim 1, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

SUB H2  
Y6

5. (Three Times Amended) A device for sensing a light produced by a process comprising the steps of:  
depositing a semiconductor layer over a substrate;  
forming a photoelectric conversion semiconductor device on said substrate, a semiconductor region of the photoelectric conversion semiconductor device comprising a p-type impurity semiconductor region, an intrinsic semiconductor region, and an n-type impurity semiconductor region; and  
forming a thin film transistor for driving the photoelectric conversion

semiconductor device over the substrate, an active layer of the thin film transistor comprising a source region, a drain region, and a channel region;

Y6  
Crid.  
wherein said semiconductor regions are arranged in order with said p-type impurity semiconductor region adjacent said intrinsic semiconductor region and said intrinsic semiconductor region adjacent said n-type impurity semiconductor region in said photoelectric conversion semiconductor device, said order being in a direction perpendicular to that in which a light to be sensed is incident thereon, and

wherein the semiconductor region of the photoelectric conversion semiconductor device and the active layer of the thin film transistor comprise the same semiconductor layer.

SUB IS >  
Y7  
6. (Amended) The device of claim 1 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

7. (Amended) The device of claim 5 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

SUB H3 >  
Y8  
8. (Twice Amended) A device for sensing a light comprising:  
a light sensor region and a semiconductor switch region adjacent to and operatively connected with said light sensor region over a substrate,

wherein a semiconductor region of the light sensor region and an active region of the semiconductor switch region comprise the same semiconductor layer formed over the substrate, and

48  
Amended

wherein said semiconductor layer has at least one of an electron mobility 15-300  $\text{cm}^2/\text{Vsec}$  and a hole mobility 10-200  $\text{cm}^2/\text{V sec}$ .

SUB  
H4

9. (Amended) A device for sensing a light comprising:  
a light sensor region and a semiconductor switch region adjacent to and operatively connected with said light sensor region over a substrate,  
wherein a semiconductor region of the light sensor region and an active region of the semiconductor switch region comprise the same semiconductor layer formed over the substrate, and  
49  
wherein said semiconductor layer has a structure in which a Raman spectrum of the semiconductor layer exhibits a peak deviated from that which stands for a single crystal for the semiconductor, and said semiconductor switch region comprises complementary p-channel and n-channel thin film transistors.

SUB  
I 8

10. (Amended) The device of claim 9 wherein said semiconductor layer comprises hydrogen doped silicon.

SUB H5

15. (Amended) A device for reading an image comprising:  
an image sensor region and a semiconductor switch region adjacent to and operatively connected with said image sensor region over a substrate,  
510  
wherein a semiconductor region of the image sensor region and an active region of the semiconductor switch region comprise the same semiconductor layer formed over the substrate, and  
wherein said semiconductor layer has a semi-amorphous structure comprising a mixture of amorphous and crystalline structures, in which a Raman spectrum of the

*Sub  
Ibid.*  
semiconductor film exhibits a peak deviated from that which stands for a single crystal of the semiconductor.

*SUB  
I13*  
*Y11*  
17. (Amended) The device of claim 15 wherein said semiconductor switch region comprises a thin film transistor of which the active region is formed of said semiconductor layer.

*SUB  
H6*  
19. (Amended) A device for reading an image produced by a process comprising the steps of:

depositing a semiconductor layer over a substrate;

*Y12*  
forming a photoelectric conversion semiconductor device on said substrate, a semiconductor region of said photoelectric conversion semiconductor device comprising a p-type impurity semiconductor region, an intrinsic semiconductor region, and an n-type impurity semiconductor region; and

forming a thin film transistor on said substrate, an active region of the thin film transistor comprising a source region, a drain region, and a channel region,

wherein the semiconductor region of said photoelectric conversion semiconductor device and the active region of the thin film transistor comprise the same semiconductor layer, and

wherein said semiconductor regions are arranged in order with said p-type impurity semiconductor region adjacent said intrinsic semiconductor region and said intrinsic semiconductor region adjacent said n-type impurity semiconductor region in said photoelectric conversion semiconductor device, said order being in a direction perpendicular to that in which an image to be read is incident thereon.

SUB I 16 >  
Y 12  
K 10 d.  
20. (Amended) The device of claim 15 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

21. (Amended) The device of claim 19 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

SUB H 7 >  
Y 13  
K 13  
22. (Twice Amended) A device for reading an image comprising:  
an image sensor region and a semiconductor switch region adjacent to and  
operatively connected with said image sensor region over a substrate,  
wherein a semiconductor region of the image sensor region and an active region of  
the semiconductor switch region comprise the same semiconductor layer formed over the  
substrate, and  
wherein said semiconductor layer has at least one of an electron mobility 15-300  
 $\text{cm}^2/\text{Vsec}$  and a hole mobility 10-200  $\text{cm}^2/\text{V sec}$ .

SUB H 8 >  
Y 14  
K 14  
23. (Amended) A device for reading an image comprising:  
an image sensor region and a semiconductor switch region adjacent to and  
operatively connected with said image sensor region over a substrate,  
wherein a semiconductor region of the image sensor region and an active region of  
the semiconductor switch region comprise the same semiconductor layer formed over the  
substrate, and  
wherein said semiconductor layer has a semi-amorphous structure in which a  
Raman spectrum of the semiconductor film exhibits a peak deviated from that which

514  
10/1/11

stand for a single crystal of the semiconductor, and said semiconductor switch region comprises complementary p-channel and n-channel thin film transistors.

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SUB  
H9

29. (Amended) A device for sensing a light comprising:  
a light sensor region and a semiconductor switch region adjacent to and operatively connected with said light sensor region over a substrate,  
wherein a semiconductor region of the light sensor region and an active region of the semiconductor switch region comprise the same semiconductor layer formed over the substrate, and  
wherein said semiconductor layer has at least one of an electron mobility greater than  $15 \text{ cm}^2/\text{Vsec}$  and a hole mobility greater than  $10 \text{ cm}^2/\text{Vsec}$ .

H15

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30. (Amended) A device according to claim 19 wherein said semiconductor layer has at least one of an electron mobility greater than  $15 \text{ cm}^2/\text{Vsec}$  and a hole mobility greater than  $10 \text{ cm}^2/\text{Vsec}$ .

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SUB H10

31. (Amended) A semiconductor device comprising:  
a substrate;  
a blocking layer on said substrate;  
first, second, and third semiconductor islands on said blocking layer;  
p-type impurity regions in said first semiconductor island with a first channel region interposed therebetween and in a first region of said third semiconductor island;  
n-type impurity regions in said second semiconductor island with a second channel region and in a second region of said third semiconductor island;  
an insulating film on said first, second, and third semiconductor islands; and

H16

Y16  
Caid.  
first and second gate electrodes over said first and second channel regions,  
respectively, with said insulating film interposed therebetween,  
wherein a Raman spectrum of each of said first, second, and third semiconductor  
islands exhibits a peak deviated from that which stands for a single crystal of the  
semiconductor.

Y17  
33. (Amended) A device according to claim 31, wherein said insulating film is a  
silicon oxide film containing fluorine.

J9  
35. (Amended) A device according to claim 31, wherein said n-type impurity  
regions contain phosphorus.

SUB H11  
Y18  
36. (Amended) A device comprising:  
a substrate;  
a blocking layer on said substrate;  
first, second, and third semiconductor islands on said blocking layer;  
p-type impurity regions in said first semiconductor island with a first channel region  
interposed therebetween and in a first region of said third semiconductor island;  
n-type impurity regions in said second semiconductor island with a second channel  
region and in a second region of said third semiconductor island;  
an insulating film on said first, second, and third semiconductor islands; and  
first and second gate electrodes over said first and second channel regions,  
respectively, with said insulating film interposed therebetween,  
wherein said first semiconductor island has a mobility of  $10\text{-}300\text{ cm}^2/\text{Vsec}$  and said  
second semiconductor island has a mobility of  $15\text{-}300\text{ cm}^2/\text{Vsec}$ .

~~J10~~ 40. (Amended) A device according to claim 32, wherein said n-type impurity regions contain phosphorus.

Please add new claims 41-58 as follows:

J10, ~~J20~~  
--41. (New) A device according to claim 8 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

42. (New) A device according to claim 9 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

43. (New) A device according to claim 22 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

44. (New) A device according to claim 23 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

~~sub~~  
J11/ 45. (New) A device according to claim 29 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .



J11 46. (New) A device according to claim 31 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

47. (New) A device according to claim 36 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than  $520\text{cm}^{-1}$ .

Sub J12 48. (New) An electric equipment having a device according to claim 5, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

Y20  
COA-1 49. (New) An electric equipment having a device according to claim 8, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

50. (New) An electric equipment having a device according to claim 9, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

51. (New) An electric equipment having a device according to claim 15, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

Sub J13 52. (New) An electric equipment having a device according to claim 19, wherein

the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

J13

53. (New) An electric equipment having a device according to claim 22, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

54. (New) An electric equipment having a device according to claim 23, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

55. (New) An electric equipment having a device according to claim 29, wherein the electric equipment is selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

56. (New) A device according to claim 31, wherein the semiconductor device is an electric equipment selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

57. (New) A device according to claim 36, wherein the semiconductor device is an electric equipment selected from the group consisting of a facsimile machine, an image reader, and a digital copying machine.

58. (New) A device according to claim 31, wherein the first and second semiconductor islands are located in a semiconductor switch region of the semiconductor